



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,401	03/19/2001	Shuang-Hui Hao	Q63623	2380

7590 05/13/2003
Sughrue Mion Zinn Macpeak & Seas
2100 Pennsylvania Avenue N W
Washington, DC 20037-3202

EXAMINER

KASENGE, CHARLES R

ART UNIT	PAPER NUMBER
----------	--------------

2125

DATE MAILED: 05/13/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,401

Applicant(s)

HAO ET AL.

Examiner

Charles R Kasenge

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 12, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Koyama et al. U.S. Patent 5,428,285. Referring to claim 1, Koyama discloses an apparatus for controlling an electric motor (col. 3, lines 3-7) comprising: a mechanical system provided with a load machine, a transmission mechanism to transmit power, and an electric motor that drives said load machine via said transmission mechanism (col. 3, lines 18-27); a simulator portion provided with a numerical model including said mechanical system, a simulation controlling portion to provide said numerical model with a torque instruction by using an observable quantity of state of said numerical model, and an evaluation portion to provide said simulation controlling portion and real controlling portion with control parameters (col. 37, lines 48-52); and a real controlling portion having the same structure (col. 3, lines 36-56 and col. 4, lines 12-32) as that of said simulator portion, in which an observable quantity of state from the real system is used as an input (col. 4 and 5, lines 62-68 and 1-5); and wherein said real controlling portion supplies a torque signal to said electric motor that is a drive source (col. 4, lines 44-46).

Referring to claim 2, Koyama discloses the apparatus for controlling an electric motor as set wherein said apparatus is provided with a means for supplying control parameters, which are

obtained by the evaluation portion of said simulation portion to the real control portion after said simulation portion is driven prior to a real operation and a simulation evaluation function for evaluating the behaviors of said numerical model satisfies the initial conditions established in advance (col. 5, lines 6-13).

Referring to claim 3, Koyama discloses the apparatus for controlling an electric motor as set forth in claim 2, wherein said apparatus is provided with said numerical model that provides a simulation speed signal and a simulation position signal based on a simulation torque with respect to a given real position instruction (col. 3, lines 40-60); a simulation PI controlling portion that provides a simulation torque instruction to said numerical model on the basis of the simulation speed signal and simulation position signal of said numerical model; and a real PI controlling portion that provides a real torque signal on the basis of said real position instruction, real position signal and real speed signal (col. 14, lines 44-56). Koyama also discloses re-starting the simulator portion to re-determine the controlling parameters (col. 6, lines 19-26).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama as applied to claims 1-3 above, and further in view of Yutkowitz U.S. Patent 6,198,246. Koyama discloses an apparatus for controlling an electric motor that has a simulation portion and

Art Unit: 2125

a real portion. Koyama also discloses using a PI controller (col. 14, lines 44-56). However, Koyama does not expressly disclose using a PID controller or using a plurality of compensators for the electric motor. Yutkowitz discloses using a PI and/or PID controller for controlling an electric motor (col. 11, lines 43-56).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a PID controller and a plurality of compensators for Koyama's apparatus for controlling an electric motor. One of ordinary skill in the art would have been motivated to do this since Yutkowitz discloses a PI and PID controller can be interchangeably utilized (col. 11, lines 43-56) and controllers commonly use compensators in order to achieve accurate reproduction of a constant command velocity if the mechanical system contains friction (col. 11, lines 20-43).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R Kasenge whose telephone number is 703 305-8592. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 703 308-0538. The fax phone numbers for the organization where this application or proceeding is assigned are 703 746-7239 for regular communications and 703 746-7239 for After Final communications.

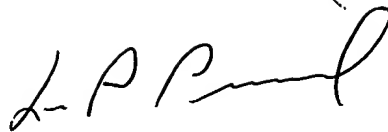
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0538.

Application/Control Number: 09/787,401

Page 5

Art Unit: 2125

CK
May 8, 2003

A handwritten signature in black ink, appearing to read "L. Picard", written in a cursive style.

**LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100**